IS 16055 : 2013
(Reaffirmed 2018)

भारतीय मानक

मैरिन उद्योग हेतु कॉपर एलॉय वाल्व — फेस टू फेस और केन्द्र से फेस की दूरिया

Indian Standard

COPPER ALLOY VALVES FOR MARINE INDUSTRY — FACE TO FACE AND CENTRE TO FACE DISTANCES

ICS 23.060.01; 47.020.05

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

October 2013 **Price Group 5**

Shipbuilding Sectional Committee, TED 17

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Shipbuilding Sectional Committee had been approved by the Transport Engineering Division Council.

This standard has been brought out with the aim of rationalizing the face to face and centre to face distances of different types of copper alloy valves for the marine industry to avoid Shipbuilders from using valves with different face to face and centre to face distances which have been creating a lot of problems amongst the manufacturers as well as the shipping industry. This standard will also help the manufacturers to keep Standard Valves in ready stock so that Shipbuilders can get the valves off the shelf.

In the formulation of this standard due considerations has been given to the practices being followed internationally.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

COPPER ALLOY VALVES FOR MARINE INDUSTRY — FACE TO FACE AND CENTRE TO FACE DISTANCES

1 SCOPE

This standard specifies face to face and centre to face distances of various types of valves, such as globe, gate, check, plug, ball, butterfly, diaphragm, pressure relief, pressure reducing, quick closing (SOS), sight glass, storm, drain valves and strainer both screwed and flanged ends for nominal sizes 8 mm to 1 600 mm as applicable,

a) for merchant ships; and
b) for naval ships.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

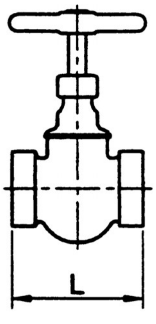
IS No.	*Title*
4854	Glossary of terms for valves and their parts:
(Part 1) : 1969	Screw-down stop check and gate valve and their parts
(Part 2) : 1968	Plug valves and cocks and their parts
(Part 3) : 1974	Butterfly valves

3 TERMINOLOGY

For the purpose of this standard the definitions given in IS 4854 (Parts 1, 2 and 3) shall apply.

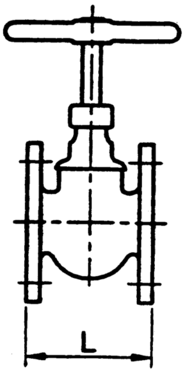
4 DIMENSIONS (FACE TO FACE AND CENTRE TO FACE) OF COPPER ALLOYS VALVE

4.1 Screw Down and Screw Down Non-return Straight Valves Screwed in Bonnet, Screwed Female Ends



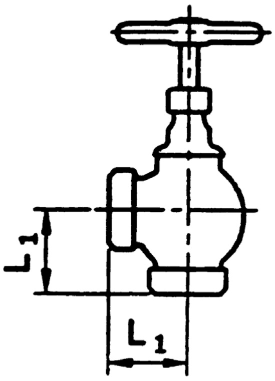
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	8 (1/4")	47	—
ii)	10 (3/8")	50	—
iii)	15 (1/2")	60	89
iv)	20 (3/4")	70	98
v)	25 (1")	80	121
vi)	32 (1 1/4")	95	132
vii)	40 (1 1/2")	110	143
viii)	50 (2")	125	—
ix)	65 (2 1/2")	160	—
x)	80 (3")	180	—
xi)	100 (4")	216	—

4.2 Screw Down and Screw Down Non-return Straight Valves Screwed in Bonnet, Flanged Ends



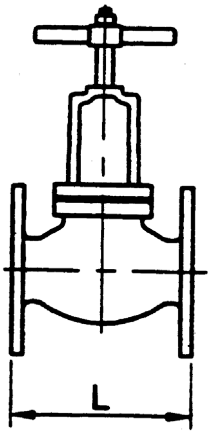
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15	75	108
ii)	20	85	117
iii)	25	95	127
iv)	32	110	146
v)	40	120	159
vi)	50	145	190
vii)	65	165	216
viii)	80	185	254
ix)	100	216	292

4.3 Screw Down and Screw Down Non-return Angle Valves Screwed in Bonnet, Screwed Female Ends



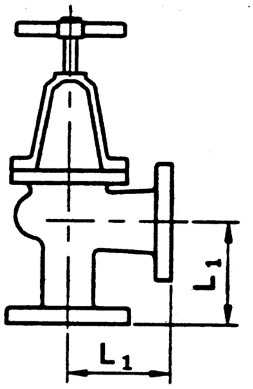
Sl No. (1)	Size (NB) (2)	For Merchant Ships ‘L_1’ (3)	For Naval Ships ‘L_1’ (4)
i)	8 (1/4")	24	—
ii)	10 (3/8")	25	—
iii)	15 (1/2")	30	41
iv)	20 (3/4")	35	50
v)	25 (1")	44	55
vi)	32 (1 1/4")	48	65
vii)	40 (1 1/2")	54	70
viii)	50 (2")	60	—
ix)	65 (2 1/2")	80	—
x)	80 (3")	90	—
xi)	100 (4")	108	—

4.4 Screw Down and Screw Down Non-return Straight Valves Bolted Bonnet, Flanged Ends



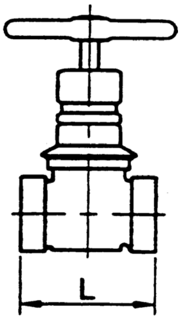
Sl No. (1)	Size (NB) (2)	For Merchant Ships ‘L’ (3)	For Naval Ships ‘L’ (4)
i)	10	120	108
ii)	15	120	108
iii)	20	120	117
iv)	25	140	127
v)	32	150	146
vi)	40	155	159
vii)	50	180	190
viii)	65	200	216
ix)	80	240	254
x)	100	270	292
xi)	125	320	330
xii)	150	370	356
xiii)	200	500	495
xiv)	250	600	622
xv)	300	700	698
xvi)	350	800	787
xvii)	400	900	914

4.5 Screw Down and Screw Down Non-return Angle Valves Bolted Bonnet, Flanged Ends



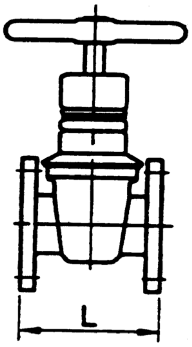
Sl No. (1)	Size (NB) (2)	For Merchant Ships ‘L_1’ (3)	For Naval Ships ‘L_1’ (4)
i)	15	65	70
ii)	20	65	75
iii)	25	70	85
iv)	32	90	95
v)	40	90	100
vi)	50	105	115
vii)	65	115	125
viii)	80	125	135
ix)	100	145	175
x)	125	170	200
xi)	150	200	225
xii)	200	250	248
xiii)	250	300	311
xiv)	300	350	350
xv)	350	400	394
xvi)	400	450	—

4.6 Gate Valve Screwed in Bonnet — Screwed Female Ends



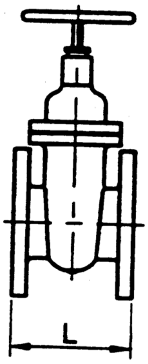
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)
i)	8 (1/4")	50
ii)	10 (3/8")	50
iii)	15 (1/2")	60
iv)	20 (3/4")	60
v)	25 (1")	70
vi)	32 (1 1/4")	80
vii)	40 (1 1/2")	90
viii)	50 (2")	100
ix)	65 (2 1/2")	105
x)	80 (3")	125
xi)	100 (4")	160

4.7 Gate Valve Screwed in Bonnet Flanged Ends



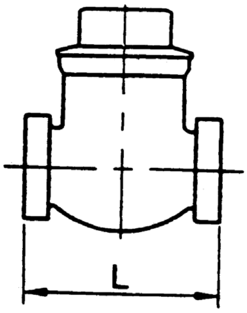
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)
i)	15	72
ii)	20	76
iii)	25	90
iv)	32	100
v)	40	110
vi)	50	120
vii)	65	140
viii)	80	150
ix)	100	190

4.8 Gate Valve Bolted Bonnet Flanged Ends



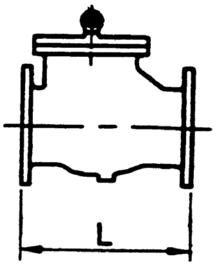
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	40	140	140
ii)	50	150	150
iii)	65	170	170
iv)	80	180	180
v)	100	190	190
vi)	125	200	200
vii)	150	210	210
viii)	200	230	230
ix)	250	250	250
x)	300	270	270
xi)	350	290	290

4.9 Swing Check Valve Screwed in Bonnet Screwed Female Ends



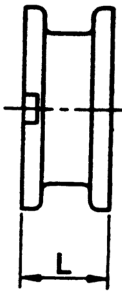
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15 (1/2")	65	76
ii)	20 (3/4")	75	82
iii)	25 (1")	95	108
iv)	32 (1 1/4")	105	114
v)	40 (1 1/2")	125	127
vi)	50 (2")	150	—
vii)	65 (2 1/2")	180	—
viii)	80 (3")	210	—

4.10 Swing Check Valves Bolted Bonnet Flanged End



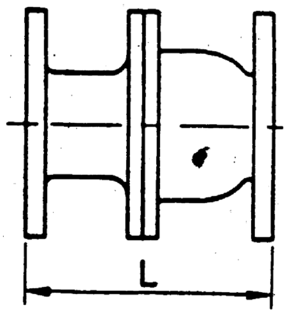
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15	—	108
ii)	20	—	117
iii)	25	—	127
iv)	32	110	146
v)	40	120	165
vi)	50	160	203
vii)	65	165	216
viii)	80	185	241
ix)	100	290	292
x)	125	330	330
xi)	150	360	356
xii)	200	495	495
xiii)	250	620	622

4.11 Swing Check Valve Duo Disc Type Wafer Type



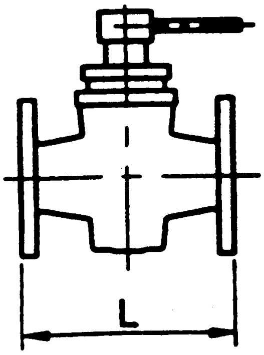
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	50	43	43
ii)	65	46	46
iii)	80	64	64
iv)	100	64	64
v)	125	70	70
vi)	150	76	76
vii)	200	89	89
viii)	250	114	114
ix)	300	114	114

4.12 Vertical Lift Check Valve Flanged Ends



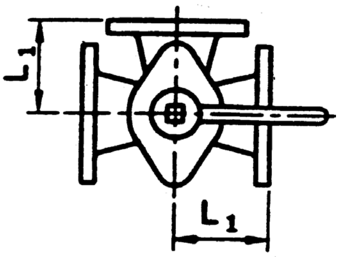
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15	135	108
ii)	20	135	117
iii)	25	140	127
iv)	32	150	146
v)	40	160	165
vi)	50	170	203
vii)	65	190	—
viii)	80	210	—
ix)	100	230	—

4.13 2-Way Straight Plug Valves Flanged Ends



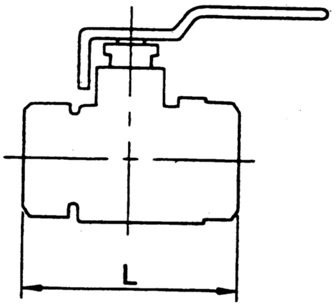
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	25	100	127
ii)	32	110	140
iii)	40	130	165
iv)	50	150	178
v)	65	180	190
vi)	80	210	203
vii)	100	250	229
viii)	150	—	267

4.14 3-Way/L-Port and T-Port Plug Valves Flanged Ends



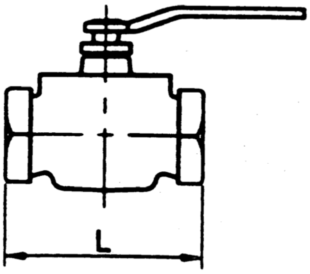
Sl No.	*Size (NB)*	*For Merchant Ships ‘L_1’*		*For Naval Ships ‘L_1’*	
		Branch Face to v/v CL mm	Face to Face mm	Branch Face to v/v CL mm	Face to Face mm
(1)	(2)	(3)	(4)	(5)	(6)
i)	25	75	150	82.5	165
ii)	32	85	170	100	200
iii)	40	95	190	110.5	221
iv)	50	100	200	120.5	241
v)	65	115	230	133.5	267
vi)	80	130	260	152.5	305
vii)	100	155	310	178	356
viii)	150	175	350	228.5	457

4.15 Ball Valves Screwed — Female Ends



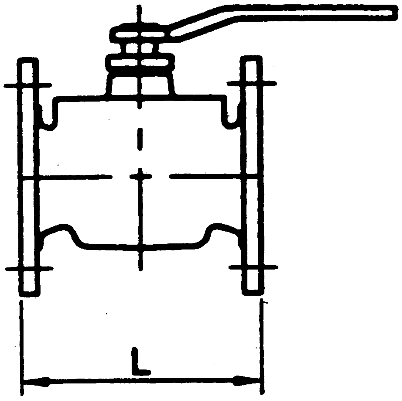
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L’* (3)	*For Naval Ships ‘L’* (4)
i)	15 (1/2”)	60	65
ii)	20 (3/4”)	62	70
iii)	25 (1”)	71	90
iv)	32 (1 1/4”)	85	96
v)	40 (1 1/2”)	105	112
vi)	50 (2”)	122	134
vii)	65 (2 1/2”)	135	175
viii)	80 (3”)	160	190
ix)	100 (4”)	195	216

4.16 Ball Valves Top Opening, Single Piece Design, Reduced Bore — Screwed Female End



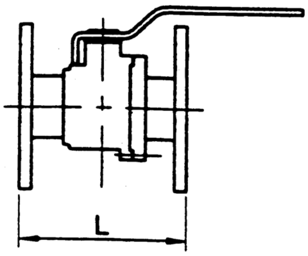
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L’* (3)	*For Naval Ships ‘L’* (4)
i)	10 (3/8")	69	69
ii)	15 (1/2")	71	71
iii)	20 (3/4")	96	96
iv)	25 (1")	108	108
v)	32 (1 1/4")	116	116

4.17 Ball Valves Top Opening, Single Piece Design, Reduced Bore — Flanged Ends



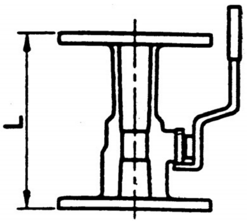
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L’* (3)	*For Naval Ships ‘L’* (4)
i)	15	108	108
ii)	20	117	117
iii)	25	127	127
iv)	32	140	140
v)	40	165	165
vi)	50	178	178
vii)	65	190	190
viii)	80	203	203
ix)	100	229	229
x)	125	254	254
xi)	150	267	267

4.18 Ball Valves Two Piece Design, Full Bore — Flanged Ends



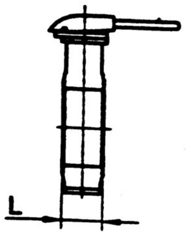
Sl No.	*Size (NB)*	*(2 Piece Design) Full Bore*	
		For Merchant Ships '*L*'	For Naval Ships '*L*'
(1)	(2)	(3)	(4)
i)	15	108	108
ii)	20	118	117
iii)	25	127	127
iv)	32	140	140
v)	40	165	165
vi)	50	178	178
vii)	65	190	191
viii)	80	203	203
ix)	100	220	229
x)	125	254	254
xi)	150	267	267

4.19 Ball Valves, Single Piece Design, Reduced Bore — Flanged Ends



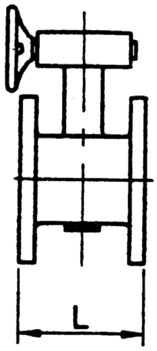
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15	108	108
ii)	20	117	117
iii)	25	127	127
iv)	32	140	140
v)	40	165	165
vi)	50	178	178
vii)	65	190	190
viii)	80	203	203
ix)	100	229	229
x)	125	254	254
xi)	150	267	267

4.20 Butterfly Valve (Wafer Type)



Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	80	46	64
ii)	100	52	64
iii)	125	56	70
iv)	150	56	76
v)	200	60	89
vi)	250	68	114
vii)	300	78	114
viii)	350	78	127
ix)	400	102	140
x)	450	114	152
xi)	500	127	152

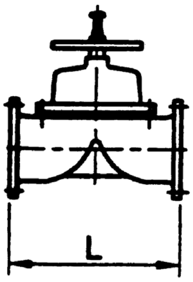
4.21 Butterfly Valve, Flanged Ends



Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	80	114	114
ii)	100	127	127
iii)	125	140	140
iv)	150	140	140
v)	200	152	152
vi)	250	165	165
vii)	300	178	178
viii)	350	190	190
ix)	400	216	216
x)	450	222	222
xi)	500	229	229

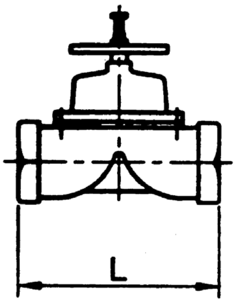
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
xii)	600	267	267
xiii)	700	292	292
xiv)	800	318	318
xv)	900	330	330
xvi)	1 000	410	410
xvii)	1 200	470	470
xviii)	1 400	530	530
xix)	1 600	600	600

4.22 Diaphragm Valves Straight Type, Bolted Bonnet, Flanged Ends



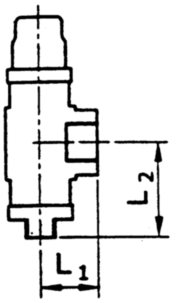
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15	108	108
ii)	20	117	117
iii)	25	127	127
iv)	32	146	146
v)	40	159	159
vi)	50	191	191
vii)	65	216	216
viii)	80	254	254
ix)	100	305	305
x)	125	356	356
xi)	150	406	406
xii)	200	521	521

4.23 Diaphragm Valves Straight Type, Screwed Female Ends



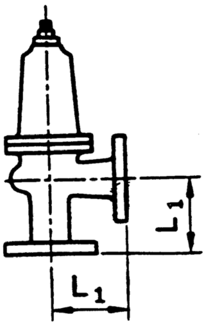
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15 (1/2")	64	64
ii)	20 (3/4")	83	83
iii)	25 (1")	108	95
iv)	32 (1 1/4")	121	114
v)	40 (1 1/2")	140	140

4.24 Pressure Relief Valves Right Angle Type, Screwed Ends



Sl No.	*Size (NB)*	*For Merchant Ships*		*For Naval Ships L_1 & L_2*
		L_1	L_2	
(1)	(2)	(3)	(4)	(5)
i)	15 (1/2")	45	48	44
ii)	20 (3/4")	57	56	48
iii)	25 (1")	62	62	67
iv)	32 (1 1/4")	67	65	83
v)	40 (1 1/2")	78	73	89
vi)	50 (2")	90	88	—

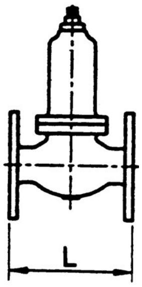
4.25 Pressure Relief Valves Right Angle Type, Flanged Ends



Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L_1'* (3)	*For Naval Ships 'L_1'* (4)
i)	15	65	76
ii)	20	65	76

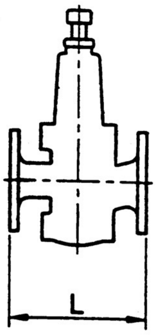
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L_1’* (3)	*For Naval Ships ‘L_1’* (4)
iii)	25	70	83
iv)	32	90	90
v)	40	90	102
vi)	50	105	114
vii)	65	115	127
viii)	80	125	133
ix)	100	145	146
x)	150	200	203

4.26 Pressure Relief Valves Straight Type, Flanged Ends



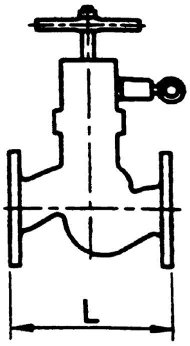
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L’* (3)	*For Naval Ships ‘L’* (4)
i)	15	120	108
ii)	20	120	117
iii)	25	140	127
iv)	32	150	146
v)	40	155	159
vi)	50	180	191
vii)	65	200	216
viii)	80	240	254
ix)	100	270	305
x)	125	320	356
xi)	150	370	406
xii)	200	500	521

4.27 Pressure Reducing Valves Straight Type, Flanged Ends



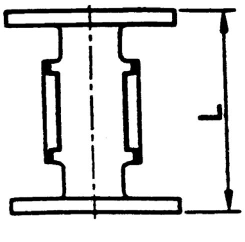
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L’* (3)	*For Naval Ships ‘L’* (4)
i)	15	130	—
ii)	20	150	—
iii)	25	160	—
iv)	32	180	150
v)	40	200	159
vi)	50	230	190
vii)	65	290	216
viii)	80	310	254
ix)	100	350	305
x)	125	400	356
xi)	150	480	410
xii)	200	600	521

4.28 Quick Closing (SOS) Valves, Flanged Ends



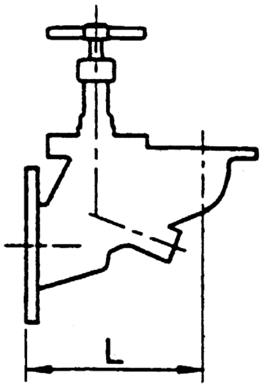
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships ‘L’* (3)
i)	15	130
ii)	20	150
iii)	25	160
iv)	32	180
v)	40	200
vi)	50	230
vii)	65	290
viii)	80	310
ix)	100	350
x)	125	400
xi)	150	480

4.29 Sight Glass (Flow Indicator), Flanged Ends



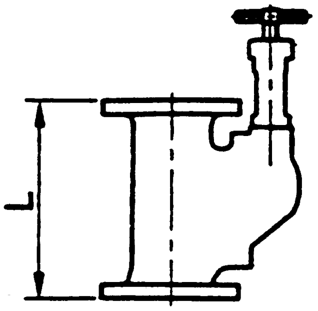
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	15	140	—
ii)	20	140	—
iii)	25	150	—
iv)	32	165	165
v)	40	185	180
vi)	50	185	195
vii)	65	230	210
viii)	80	240	225
ix)	100	305	240
x)	125	310	255
xi)	150	410	270

4.30 Storm Valves Right Angle Type, Flanged Ends



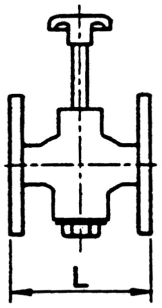
Sl No. (1)	*Size Inlet/Outlet* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	50/65	180	180
ii)	65/80	200	200
iii)	80/100	215	215
iv)	100/125	250	250
v)	125/150	290	290
vi)	150/200	330	330
vii)	200/250	425	425

4.31 Storm Valves Straight Type, Flanged Ends



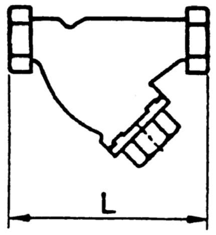
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)	*For Naval Ships 'L'* (4)
i)	50	200	200
ii)	65	240	240
iii)	80	260	260
iv)	100	300	300
v)	125	350	350
vi)	150	400	400

4.32 Drain Valves Straight Type, Flanged Ends



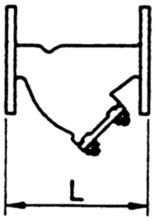
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)
i)	15	85
ii)	20	105
iii)	25	115
iv)	32	150
v)	40	155
vi)	50	180

4.33 Strainer 'Y' Type, Screwed Female Ends



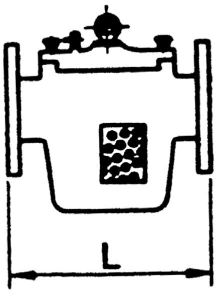
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)
i)	15	85
ii)	20	100
iii)	25	120
iv)	32	140
v)	40	160
vi)	50	205

4.34 Strainer 'Y' Type, Flanged Ends



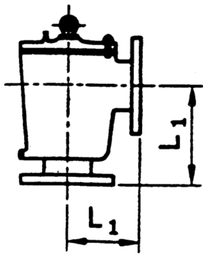
Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)
i)	15	125
ii)	20	140
iii)	25	160
iv)	32	180
v)	40	200
vi)	50	235
vii)	65	265
viii)	80	285
ix)	100	360
x)	125	420
xi)	150	460
xii)	200	590
xiii)	250	750

4.35 Basket Strainer, Straight Type, Flanged Ends



Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L'* (3)
i)	40	200
ii)	50	230
iii)	65	290
iv)	80	310
v)	100	350
vi)	125	400
vii)	150	480
viii)	200	600
ix)	250	730
x)	300	850

4.36 Basket Strainer, Right Angle Type, Flanged Ends



Sl No. (1)	*Size (NB)* (2)	*For Merchant Ships 'L_1'* (3)
i)	40	125
ii)	50	135
iii)	65	150
iv)	80	175
v)	100	195
vi)	125	220
vii)	150	270
viii)	200	300

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Amend No.	Date of Issue	Text Affected

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